

MEMORANDUM FOR SEE DISTRIBUTION

FROM: HQ AFCESA/CEO
139 Barnes Drive Suite 1
Tyndall AFB FL 32403-5319

SUBJECT: Pavements and Construction Equipment Operators (P&E) Utilization and Training Workshop (U& TW) Minutes

1. **PURPOSE:** To review and align AFMAN 36-2108 with the Career Field Education and Training Plan (CFETP), determine true 3-level student training requirements, Career Development Course requirements, verify/identify core tasks, identify Mission Ready Airman requirements, and review advanced courses to meet the future training needs for the career field.

2. **LOCATION:** 366 Training Squadron, Det 7, Ft Leonard Wood MO

3. **DATES:** 8-12 May 2000

4. **ATTENDEES:** SMSgt Randall Skinner, HQ AFCESA/CEOT, chaired the workshop. (See Attachment 2 for list of attendees).

5. **SUMMARY:** Modified the CFETP to meet existing requirements and aligned 3/5/7-level training requirements to match. Verified/identified cores tasks and identified future training needs for the P&E career field through supplemental training.

6. **DISCUSSION:**

a. **366 TRS/CC Briefing:** Lt Col Schaffer, Det 7, Ft Leonard Wood MO, opened the workshop by welcoming all attendees and pointed out the significance each member would play in the workshop. CMSgt Joe Wallace, 366 TRS/CCM, provided the energy of the workshop by emphasizing the importance of the task ahead. He presented a consolidated overview of the U&TW to define the true training requirements.

b. **U&TW Charter/Agenda/Rules of Engagement/Introductions:** CMSgt Michael Gelsleichter briefed attendees on the U&TW step-by-step process for voting. He pointed out the significance of each member's input and the importance of their integrity in defining 3/5/7-level training requirements for this career field as the voting members. Chief Gelsleichter stressed that regardless of their experience, each vote counts and determines the final outcome for training. He emphasized that the focus for the workshop should be on P&E wartime contingency requirements, and any training requirements that are not a wartime task should not

be introduced. He also cautioned against allowing schoolhouse resource constraints to alter their decision when determining true training requirements. SMSgt Skinner gave his opening remarks and encouraged members to provide supporting data when making suggested changes to the CFETP. He gave a brief overview of the five-day workshop agenda with accompanying procedural remarks.

c. **How Goes It Briefing & Tour of Training Facilities:** Mr. Joe Barronr, 366 TRS, Det 7, provided a bus tour of all training areas and identified specific projects, either underway or pending, that will improve the AF-unique training areas.

d. **CE Craftsman 7-Level Course Briefing:** Chief Wallace provided an overview, via a powerpoint presentation, for the 7-level course. He gave a brief history of how it came to be, selection process for attending, and the importance of all attendees meeting the prerequisites before attending. The 7-level course is intended to be a finishing course in technical expertise and management skills for final upgrade. He spoke to the most important issues--civil engineers must have ALL core tasks and read-ahead material completed prior to attending any 7-level course, and in order to attend a 7-level course, personnel are rated by rank and time in upgrade training. If a person is unable to attend the class, the slot cannot be filled and AFPC will access the system to find another body; however, by the time a name is generated, the course is into the second day and the slot remains vacant. He encouraged when one of your folks have a slot, please fill it or it is wasted.

e. **Community College of the Air Force (CCAF) Briefing:** TSgt James Dinsmoore, HQ AETC, gave a basic briefing on the courses available and the process for gaining additional course approval in the CCAF program. The catalog is revised every two years and he advised members to take advantage of the opportunity to make changes to the degree program at this time. He provided statistical data revealing the number of P&E personnel who have accomplished the CCAF requirements. He encouraged members to impress upon their folks the opportunity and the benefit of receiving a degree in P&E through the CCAF.

f. **AEF and EAF:** An impromptu presentation on EAF and AEF was given by CMSgt Michael Doris, HQ USAF/ILEM. He related the relevance of the contingency concept to the civil engineer and the P&E AFS. He presented a powerpoint visual aid to enhance the TOTAL FORCE employment concept. The end result is 10 AEFs, on a 15-month rotation cycle, with a 90-day vulnerability force structure with the capability to support all operational taskings. Current statistics show that 1,800 civil engineers are on call ready to report any time, any place, to perform any task, with 740 in the field at all times.

g. **Review AFMAN 36-2108:** SMSgt Skinner gave a short brief of how the review process would take place. The group then reviewed AFMAN 36-2108 and recommended changes. See attachment 3 for the recommended changes.

h. **CFETP, Part 1, Review:** A review of the CFETP, Part 1, was conducted to reflect the appropriate changes, additions, and deletions. Again, the group made several minor recommendations and approved them without opposition. See attachment 4 for the recommended changes.

i. **Occupational Measurement Squadron (OMS) Briefing:** Ms. Karen Williams, AFOMS/OMYO, gave the Air Force OMS briefing that is used to evaluate each career field every 3-5 years via occupational data collection through the analysis of surveys. The occupational measurement provides an analysis that serves as a foundation for the process of determining career-level progression, job satisfaction, plans of instruction, and tasks actually being performed by civil engineers. This data is used as a foundation for the process of determining the wartime job 3/5/7-level tasks and training, as well as providing data that show actual jobs performed. For active duty, 1,089 discs were mailed out, 89% were returned, and 58% were used to compile the data. For the ANG forces, 1,079 discs were mailed out, 79% returned, and 38% used to collect the data. For Reserve forces, 456 discs were mailed, 80% were returned, and 44% were used to compile the data. Not all members are eligible to respond. 700 tasks in the P&E career field were measured.

7. **Closing Remarks:** SMSgt Skinner thanked the attendees for their participation and professionalism, which made this U&TW a great success. The workshop adjourned at 1430 on 12 May 2000.

LANCE C. BRENDDEL, Colonel, USAF
Director of Operations Support

Attachments:

1. Distribution List
2. Attendees
3. Changes to AFMAN 36-2108
4. Changes to STS
5. Supplemental Course Changes
6. Action Items
7. Overall U&TW Results

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366 TRS CC/TRR/TTE

May 00 U&TW Attendees

Pavements & Construction Equipment Operator AFS

MAJCOM	NAME/RANK	BASE	COMMENTS
HQ AFCESA	CMSgt Michael Gelsleichter	Tyndall AFB FL	CFM
HQ AFCESA	SMSgt Randall Skinner	Tyndall AFB FL	Chairman
HQ AFCESA	MSgt Leonard Howard	Tyndall AFB FL	Contingency
HQ AFCESA	Ms. Deana Arms	Tyndall AFB FL	Recorder
AFRC	TSgt Wayne A. Schulz	926 CES	Voting Member
ANG	SMSgt Kenneth Deck	201st RH (REOTS)	Voting Member
AMC	SMSgt Troy Wiitala	Scott AFB	Voting Member
AFMC	MSgt Paul J. Johnson	Edwards AFB	Voting Member
USAFE	MSgt Ralph Falls	Colorado Springs	Voting Member
AFSOC	MSgt Michael Lewis	Hurlburt Fld	Voting Member
ACC	MSgt Alwyn Archer	820 RHS/COAD	Voting Member
PACAF	SMSgt John Little	554 RHS/DOA	Voting Member
USAFE	MSgt Patrick Daize	Ramstein AB	Voting Member
AETC	MSgt Mark.Lewis	Maxwell AFB	Voting Member
11 th wing	MSgt Tellas S. Johnson	Bolling AFB	Voting Member
HQ AETC	Capt Copeland	Randolph AFB	Logistics
Pentagon	CMSgt Michael S. Doris	Washington DC	Chief Enlisted Matters (CE)
AFRC	CMSgt Susan K. Wynn	HQ AFRC/CEXR	Training Manager
366th	CMSgt Joe B. Wallace	Sheppard AFB TX	Non-Voting Mbr
HQ AFMC	SMSgt Keith Hinnens	Scott AFB	Non-Voting Mbr
AMC	MSgt William Kendall	Fairchild AFB	Non-Voting Mbr
ACC	MSgt Richard Wilhelm	Tyndall AFB	Non-Voting Mbr
HQ AMC	MSgt Jesse Reynolds	Scott AFB	Non-Voting Mbr
366 th TRS	Mr. Jim Phillips	Sheppard AFB TX	Training Manager
366th	Mr. Stephen Smith	Sheppard AFB TX	Manpower
Det 7	TSgt Greg Stout	Ft Leonard Wood	Non-Voting Mbr
Det 7	Mr. John Newcomer	Ft Leonard Wood	Non-Voting Mbr
ACC	MSgt John Michalik	Silver Flag Tyndall	Non-Voting Mbr
AETC	Ms. Kim Williams	Randolph AFB	AFOMS
Det 7	Mr. Joe Barroner	Ft Leonard Wood	Non-Voting Mbr
Det 7	MSgt George Johnson	Ft Leonard Wood	Non-Voting Mbr
CCAF	TSgt James S. Dinsmoore	Maxwell AFB	Non-Voting Mbr

PAVEMENTS AND CONSTRUCTION EQUIPMENT OPERATOR

(DRAFT 9 May 00)

1. Specialty Summary. Operates and maintains heavy construction equipment, such as, loaders, graders, dozers, backhoes, and dump trucks. Constructs and maintains concrete and asphalt runways, aircraft parking aprons, and roads. Operates tractor-trailer combinations, transporting construction equipment, and materials. Ensures compliance with all safety and environmental regulations.

Related DoD Occupational Subgroup: 710.

2. Duties and Responsibilities:

2.1. Plans, constructs, and repair airfield pavements, roads, streets, curbs, surface mats, membranes, and other improved areas using paving and surfacing procedures. Takes soil, aggregate, asphalt, and concrete samples for laboratory tests. Interprets construction drawings and surveys using information such as subgrade contours and grade alignment. Inspects pavements for surface, base, and sub-base damage or defects. Repairs damaged or defective areas by removing and replacing joint and crack sealing, surface overlays, and seal coats. Determines material and equipment requirements and prepares cost estimates for construction activities. Provides erosion control.

2.2. Determines type and application of equipment used in various construction, maintenance, and repair operations. Operates construction equipment to finish grade, level, slope, and compact construction materials. Operates snow and ice removal equipment. Applies chemicals and other ice control products.

2.3. Inspects, lubricates, and performs operator maintenance on construction and snow removal equipment. Adjusts and changes attachments on equipment. Connects and repairs wire rope rigging to cable -operated equipment. Schedules and coordinates equipment repair and servicing with the vehicle maintenance activity and other servicing facilities.

2.4. Investigates proposed work sites to determine resource requirements. Prepares cost estimates for work requests. Applies engineered performance standards to plan and estimate jobs. Coordinates and plans work requirements with other civil engineer and base agencies. Inspects work to ensure quality and compliance with policies, regulations, and other publications.

2.5. Designs demolition projects, places, and detonate explosives. Performs quarry demolition, clearing and base denial operations as required. Operates water well drilling, rock crushing equipment, and fixed/mobile concrete and asphalt batch plants.

3. Specialty Qualifications:

3.1. Knowledge is mandatory of: characteristics, capabilities, operation, and maintenance of equipment used in construction and paving; soil types, properties, limitations, and compaction methods; soil stabilization, drainage, and erosion control; construction and maintenance of asphalt and concrete surfaces; roadbeds; structure erection; landscaping;; safety and environmental concerns;; and pavement maintenance plans.

3.2. Education. For entry into this specialty, completion of high school with courses in general science, shop mechanics, and use of drawings is desirable.

3.3. Training. For award of AFSC 3E231, completion of a basic pavements and equipment operator course is mandatory. **232 AFMAN 36-2108, Attachment 23, 31 October 1999.**

3.4. Experience. The following experience is mandatory for award of the AFSC indicated:

3.4.1. 3E251. Qualification in and possession of AFSC 3E231. Also, experience in functions such as operating tools and equipment to prepare areas for construction and to maintain roads, runways, and grounds; and mixing and placing concrete and bituminous materials.

3.4.2. 3E271. Qualification in and possession of AFSC 3E251. Also, experience performing or supervising functions such as construction equipment operation; special techniques in using construction equipment to prepare areas for constructing and maintaining roads, grounds, and airfield surfaces; or concrete work, soil stabilization, and rigid and flexible pavement construction and maintenance.

3.4.3. 3E291. Qualification in and possession of AFSC 3E271. Also, experience directing functions such as, construction equipment operations and pavements and grounds maintenance.

3.5. Other. For entry award and retention of these AFSCs, qualification to operate a government vehicle according to AFMAN 24-309, *Vehicle Operations*, is mandatory.

DRAFT

This is not an interim change. This document is a reflection of the recommended changes from the May 00 U&TW. They will be included in the new 3E2X1 CFETP. Do not use this information to make changes to your current 1997 CFETP.

3E2X1 STS Changes

July 2000

8.1.:	Delete as core task
8.2.:	Add 5-level "B"
8.3.:	Change to read as "Airdome Signals"; delete as core task; change from "2b" to "B"; change 3-level from "2b/B" to "B"
9.2.:	Add "A"; add 3-level "A"; add 5-level "B"
9.3.:	Add "/A"
9.4.1.:	Delete as core task
9.4.2.:	Delete as core task
9.4.3.:	Delete as core task
9.4.4.:	Add "B"
9.4.5.:	Delete as core task
9.4.6.:	Delete as core task
9.4.7.:	Delete as core task
9.6.1.:	Delete as core task
9.6.2.:	Delete as core task
9.6.3:	Delete as core task
9.6.5.:	Delete as core task; change 5-level from "b" to "B"
9.6.6.:	Delete as core task; change 5-level from "b" to "B"
9.6.7.:	Delete as core task; change 5-level from "b" to "B"
9.6.8.:	Delete as core task; change 5-level from "b" to "B"
9.6.9.:	Delete as core task; add 5-level "B"
9.6.10.:	Delete as core task; add 5-level "B"
9.6.11.:	Delete as core task; add 5-level "B"
9.6.12.:	Delete as core task; add 5-level "B"

9.7.:	Delete as core task
9.8.:	Add “/A”
9.9.:	Add “/B”
10.1.:	Add “/A”
10.2.:	Add “/A”
11.1.:	Add 5-level “b”
11.2.1.:	Add “/2b”; change 3-level from “3c/2b” to “2b”; change 5-level from “b” to “B”
11.2.2.:	Change from “*/ “ to “/2b”; change 3-level from “3c/2b” to “2b”; change 5-level from “b” to “B”
11.2.3.:	Add “/2b”; change 5-level from “b” to “B”
12.1.:	Add “/A”
12.2.:	Add “/A”
12.3.:	Add “/A”
12.4.:	Add “/A”; add 5-level “A”
12.5.:	Change “Use levels” to “Levels”; add “/A”; change 3-level from “2b” to “A”
12.7.:	Delete
12.8.:	Delete
12.9.:	Delete
13.1.:	Change from “*/3c” to “/2b”; change 3-level from “3c/2b” to “2b”
13.2.:	Add 13.2. “Perform Operator Maintenance”; add “/2b”; add 3-level “2b”; add 5-level “b”
13.3.:	“Use powered Equipment”
13.3.1.:	Change from 13.2.1. to 13.3.1; add “/2b”; change 3-level from “3c/2b” to “2b”
13.3.2.:	Change from 13.2.2 to 13.3.2.; add “/2b”
13.3.3.	Change from 13.2.3. to 13.3.3.; change 3 l3vel from “2b/X” to “2b”
13.3.4.:	Change from 13.2.4. to 13.3.4; delete as core task
13.3.5.:	Change from 13.2.5. to 13.3.5; add “/2b”

13.3.6.;	Change from 13.2.6. to 13.3.6.; change from “*/3c” to “/2b”; change 3-level from “3c” to “2b”
13.3.7.:	Change from 13.2.7. to 13.3.7.; change to read Hot/cold joint Sealing Machines”; add “/a”; add 3-level to “a”
13.3.8.:	Change from 13.2.8. to 13.3.8.; add “/2b”
13.3.9.:	Change from 13.2.9. to 13.3.9.; add “/2b”
13.3.10.:	Change from 13.2.10. to 13.3.10.
13.3.10.1.:	Change from 13.2.10.1 to 13.3.10.1; delete as core task
13.3.10.2.:	Change from 13.2.10.2. to 13.3.10.2.; delete as core task
13.4.1.:	Change from 13.3.1.; add “/2b”
13.4.2.:	Change from 13.3.2.; change “*/3c” to “/2b”; change 3-level from “3c/2b” to “2b”
13.4.3.:	Change from 13.3.3. to 13.4.3.; add “/2b”
14.1.1.:	Change from “*/3c” to “”2b”; change 3-level from “3c” to “2b”
14.1.2.:	Change from “Operate” to “Perform Operators Maintenance”; add “*/2b”; add 3-level “2b”; add 5-level “b”
14.1.3.:	Change from 14.1.2. to 14.1.3. “Operate”
14.1.3.1.:	Change from 14.1.2.1. to 14.1.3.1.; change “*/3c” to “*/2b”; change 3-level from “3c/2b” to “2b”
14.1.3.2.:	Change from 14.1.2.2. to 14.1.3.2.; change “*/3c” to “*/2b”; change 3-level from “3c/2b” to “2b”
14.1.3.3:	Add 14.1.3.3. “Spread Material such as:”
14.1.3.3.1.:	Add 14.1.3.3.1. “Gravel”; add “*/2b”; add 3-level “2b”, add 5-level “b”
14.1.3.4.:	Change 14.1.2.4 to 14.1.3.4. “Tow Equipment”; delete as core; add “2b”; change 3-level from “3c/2b” to “2b”
14.1.3.:	Delete
14.2.1.:	Change from “*/3c” to “*/2b”; change 3-level from “3c/2b” to “2b”
14.2.2.:	Delete “Operate with Attachments such as:” and add “ 14.2.2. “Perform Operators Maintenance”; add “*/2b”; add 3-level “2b”, add 5-level “b”
14.2.2.1.:	Delete
14.2.2.1.1.:	Delete
14.2.2.1.2.:	Delete
14.2.2.1.3.:	Delete

14.2.2.1.4.:	Delete
14.2.2.1.4:	Delete
14.2.2.1.5.:	Delete
14.2.2.1.6.:	Delete
14.2.3.:	Change to read as “Loader Operations:”
14.2.3.1.:	Change to read as “Load Gravel into dumptruck”
14.2.3.2.:	Change to read as “Level Area”
14.2.3.3.:	Add 14.2.3.3. “Spread Materials”; add “/2b”; add 3-level “2b”; add 5-level “b”
14.2.3.4.:	Add 14.2.3.4. “Stockpile Materials”; add “/2b”; add 3-level “2b”; add 5-level “b”
14.2.3.5.:	Add 14.2.3.5. “Backfill”; add “/2b”; add 3-level “2b”; add 5-level “b”
14.2.3.6.:	Add 14.2.3.6. “Clamshell Bucket”; add “/2b”; add 3-level “2b”; add 5-level “b”
14.2.4.:	Change to read as “Forklift Attachment Operations:”
14.2.4.1.:	Change to read as “Load/Unload Material”; add “*/2b”; add 3-level “2b”; change 5-level from “A” to “b”
14.2.4.2.:	Change to read as “Transport Material”; add “*/2b”; add 3-level as “2b”; change 5-level from “A” to “b”
14.2.5.:	Delete
14.2.5.:	Add 14.2.5. “Move Material Using:”
14.2.5.1:	Add 14.2.5.1 “Boom”; add 5-level “A”
14.2.5.2.:	Add 14.2.5.2. “Blade”; add 5-level “A”
14.2.6.:	Change to read as “Change Attachments on front-end loaders”; change “*/3c” to “2b”; change 3-level from “3c/2b” to “2b”
14.3.1.;	Add “/2b”
14.3.2.:	Change to read as “Perform Operators Maintenance”; add “/2b”; add 3-level “2b”; add 5-level “b”
14.3.2.1.:	Delete
14.3.2.2.:	Delete
14.3.2.3.:	Delete

14.3.2.4.:	Delete
14.3.2.5.:	Delete
14.2.3.6.:	Delete
14.2.3.7.:	Delete
14.3.3.:	Change to “Operate Using Attachments such as:”
14.3.3.1:	Change 14.3.3.1. to “Impactor”; add “/1a”; change 3-level from “2b” to “1a”
14.3.3.2.:	Change 14.3.3.2. to “Bucket”; add “/2b”
14.3.3.3.:	Change 14.3.3.3. to “Forklift”; add “/2b”
14.3.3.4.:	Change 14.3.3.2. to “Earth auger”; add “/2b”; add 3-level “2b”; add 5-level “b”
14.3.3.5.:	Add 14.3.3.5. “Backhoe”; add 5-level “b”
14.3.3.6.:	Add 14.3.3.6. “Sweeper”; add “/2b”; add 3-level “2b”; add 5-level “b”
14.3.4.:	Change 14.3.4. to “Perform Functions such as:”; delete 3-level “2b”; delete 5-level “b”
14.3.4.1.:	Add 14.3.4.1. “Excavating”; add “/2b”; add 3-level “2b”; add 5-level “b”
14.3.4.2.;	Add 14.3.4.2. “Backfill”; add “/2b”; add 3-level “2b”; add 5-level “b”
14.3.4.3.:	Add 14.3.4.3. “Leveling”; add “/2b”; add 3-level “2b”; add 5-level “b”
14.3.4.4.:	Add 14.3.4.4. “Load Materials”; add “/2b”; add 3-level “2b”; add 5-level “b”
14.3.5.:	Change 14.3.5. to “Change Attachments on Skid Steer Loader”; add “/2b”
14.4.1.:	Change from “**/” to “**/a”; change 3-level from “1a” to “a”
14.4.2.:	Change 14.4.2. to “Perfrom operators Maintenance”; add “**/a”; add 3- level “a”; add 5-level “b”
14.4.2.1.:	Delete
14.4.2.2.:	Delete
14.4.2.3.:	Delete

14.4.2.4.:	Delete
14.4.2.5.:	Delete
14.4.2.6.:	Delete
14.4.2.7.:	Delete
14.4.3.:	Change 14.4.3. to “Operate”; delete “**/3c”; delete 3-level “1a”; delete 5 level “b”
14.4.3.1.:	Add 14.4.3.1. “Couple/Uncouple Trailer”; add “**/a”; add 3-level “a”; add 5-level “b”
14.4.3.2.:	Add 14.4.3.2. “Load/Unload Constrution Equipment”; add “**/a”; add 3-level “a”; add 5-level “b”
14.4.3.2.1.:	Add 14.4.3.2.1. “Utilize Cribbing”; add “/a”; add 3-level “a”; add 5-level “b”
14.4.3.3.:	Add 14.4.3.3. “Load/Unload Construction Materials”; add “**/a”; add 3-level “a”; add 5-level “b”
14.4.3.4.:	Add 14.4.3.4. “Secure Equipment/Materials Using:”
14.4.3.4.1.:	Add 14.4.3.4.1. “Chains and Binders”; add “**/a”; add 3-level “1a”; add 5-level “b”
14.4.3.4.2.:	Add 14.4.3.4.2 “Cargo Straps”; add “**/a”; add 3-level “1a”; add 5-level “b”
14.4.3.5.:	Add 14.4.3.5. “Backing”; add “**/a”; add 3-level “a”; add 5-level “b”
14.4.3.6.:	Add 14.4.3.6. “Over the Road”; add “**/a”; add 3-level “a”; add 5-level “b”
14.5.1.:	Change 14.5.1. to “Perform Operational Checks”; add “/b”; add 3-level “b”; add 5 level “b”
14.5.1.1.:	Delete
14.5.1.2.:	Delete
14.5.1.3.:	Delete
14.5.2.:	Change 14.5.2. to “Perform Operators Maintenance”; add “/b”; add 3- level “b”; add 5 level “b”
14.5.2.1.:	Delete
14.5.2.2.:	Delete
14.5.2.3.:	Delete

14.5.3.:	Add 14.5.3. "Operate Self Propelled Paver"; add "/b"; add 3-level "b"; add 5-level "b"
14.6.2.:	Change 14.6.2. to "Perform Operators Maintenance"; add "***2b"; add 3-level "2b"; add 5-level "b"
14.6.2.1.:	Delete
14.6.2.2.:	Delete
14.6.2.3.:	Delete
14.6.2.4.:	Delete
14.6.2.5.:	Delete
14.6.2.6.:	Delete
14.6.2.7.:	Delete
14.6.2.8.:	Delete
14.6.3.:	Change 14.6.3. to "Perform Grader Operations such as:"; delete "***2b"; delete 3-level "2b"; delete 5-level "b"
14.6.3.1.:	Add 14.6.3.1. "Ditching"; add "/2b"; add 3-level "2b"; add 5-level "B"
14.6.3.2.:	Add 14.6.3.2. "Sloping Banks"; add 5-level "B"
14.6.3.3.:	Add 14.6.3.3. "Spreading Materials in Articulated Mode"; add 5-level "B"
14.6.3.4.:	Add 14.6.3.4. "Leveling Materials"; add "***2b"; add 3-level "2b"; add 5-level "B"
14.6.3.5.:	Add 14.6.3.5. "Maintaining Unpaved Surfaces"; add "***2b"; add 3-level "2b"; add 5-level "B"
14.6.3.6.:	Add 14.6.3.6. "Finish Grading"; add "/b"; add 3-level "b"; add 5-level "B"
14.6.3.7.:	Add 14.6.3.7. "Scarifying materials"; add "/b"; add 3-level "b"; add 5-level "B"
14.6.3.8.:	Add 14.6.3.8. "Mixing Materials"; add "/A"; add 3-level "A"; add 5-level "B"
14.7.2.:	Change to "Perform Operator Maintenance"; add "/b" 3-level "b", no 5-level
14.7.2.1.	Delete "Drag Box"
14.7.2.2.	Delete Tow Equipment

14.7.2.3.	Delete Mower Attachments
14.7.3	Delete "Perform Operator Maintenance"; add Operate with Attachments such as:"
14.7.3.1	Add "Dragbox"
14.7.4	Add "Tow Equipment"
14.8.2.	Change "Perform Crawler Tractor Operations such as:" to Perform Operational Checks
14.8.2.1	Delete "Stockpiling"
14.8.2.2	Delete "Leveling"
14.8.2.3	Delete "Berming"
14.8.2.4	Delete "Ditching"
14.8.2.5	Delete "Ripping"
14.8.2.6	Delete "Winching"
14.8.2.7	Delete "Clearing"
14.8.2.8	Delete "Slope Bank"
14.8.2.9	Delete "Tow Equipment"
14.8.3	Change to "Perform Crawler Tractor Operations such as:" delete **/2b, 2b 3-level; b 5-level
14.8.3.1	Add "Stockpiling", **/2b; 2b 3-level, b 5-level
14.8.3.2	Add "Leveling", **/2b; 2b 3-level, "b" 5 -level
14.8.3.3	Add "Berming", **/2b" 2b 3-level, 2b B 5-level;
14.8.3.4	Add "Ditching", **/2b, 2b 3-level, 2b 5-level; B
14.8.3.5	Add "Ripping", B 5-level
14.8.3.6	Add "Winching", B 5-level
14.8.3.7	Add "Clearing, /b , 2b 3-level, B 5-level
14.8.3.8	Add "Bank Sloping" B 5-level
14.8.3.9	Add "Tow Equipment" /A, A 3-level, B 5- level
14.9.2	Change "Operate" to "Perform Operators Maintenance"
14.9.3	Change "Perform Operators Maintenance" to "Operate"

14.10	Delete "Forklift"
14.10.1	Delete "Perform Operational Checks"
14.10.2	Delete "Operate"
14.10.3	Delete "Perform Operators Maintenance"
16.2	Change "Operate Compaction Equipment" to "Operators Maintenance"
16.2.1	Delete "Steel Wheel"
16.2.2	Delete "Pneumatic Tired"
16.2.3	Delete "Sheepsfoot"
16.2.4	Delete "Steel Wheel Vibratory Roller"
16.3	Change "Perform Operators Maintenance" to "Compact Earthen Materials Using:"
16.3.1	Add "Steam Wheel Roller" /b, b 3-level; B 5-level
16.3.2	Add "Pneumatic Tired Roller" /b, b 3-level; B 5-level
16.3.3	Add "Sheepsfoot Roller" /b, b 3-level; B 5-level
16.3.4	Add "Steel Wheel Vibratory Roller" */2b, 2b 3-level; B 5-level
17.1	Change "Asphalt Distributor" to "Bituminous Distributor"
17.1.2	Change "Perform Asphalt Distributor Operations with Attachments such as:" to "Perform Operators Maintenance"; add B 5-level
17.1.2.1	Delete "Heating"
17.2.2	Delete "Application"
17.1.3	Add "such as:"
17.1.3.1	Add "Heating" B 5-level
17.1.3.2	Add "Application" B 5-level
17.2.2	Change "Perform Water Distributor Operations with Attachments such as:" to "Perform Operators Maintenance" /1a, 1a 3-level; B 5-level
17.2.2.1	Delete "Gravity Feed"

17.2.2.2	Delete "Pressure Spray"
17.2.2.3	Delete " Fill from Hydrant"
17.2.2.4	Delete "Fill from Stand"
17.2.2.5	Delete "Suction Fill"
17.2.3	Add "such as"
17.2.3.1	Add "Gravity feed", /1a, 1a 3-level; B 5-level
17.2.3.2	Add "Pressure Spray", /1a, 1a 3-level; B 5-level
17.2.3.3	Add "Fill from hydrant", /1a, 1a 3-level; B 5-level
17.2.3.4	Add "Fill from stand", /A, A 3-level; B 5-level
17.2.3.5	Add "Suction Fill", /A, A 3-level, B 5-level
18.1.2	Change "Operate" to "Perform Operation Maintenance"
18.1.3	Change "Perform Operation Maintenance" to "Operate"
18.2.2	Change "Perform Operation Maintenance" to "Operate"
18.2.3	Change "Operation" to "Perform Operation Maintenance to "Operate"
18.3.2	Change "Operate On" to "Perform Operator Maintenance"
18.3.4	Add "Change Brooms" */2b, 2b 3-level, b 5-level
18.4	Delete "Operate Magnetic Sweepers"
19.1.5 19.1.6	Change "Perform Operators Maintenance" to "Setup and Maneuver"
19.2	Change "Operate Mechanical Crane with: " to "Hydraulic Telescopic Cranes"
19.2.1	Change "Hookblock" to "Perform Operational Checks"
19.2.2	Change "Clamshell" to "Perform Operational Maintenance"
19.2.3	Change "Dragline" to "Operate with:"
19.2.3.1	Add "Hookblock" /A, A 3-level; B 5-level
19.2.3.2	Add "Working Platform" /A, A 3-level; B 5-level

19.2.3.3	Add "Clamshell" /A, A 3-level; B 5-level
19.2.4	Add "Install and Remove Cables" /A, A 3-level; B 5-level
19.2.5	Add "Change Attachments"
19.3.1	Delete "Booms"
19.3.2	Delete "Boom Extentins"
19.3.3	Delete "Cables"
19.3.4	Delete "Taglines"
19.3.5	Delete "Fairlead"
19.3.6	Delete "Dielectric Boom Shield"
19.4	Delete "Change Attachments"
19.4.1	Delete "Hookblock"
19.4.2	Delete "Clamshell"
19.4.3	Delete "Dragline"
19.5	Delete "Operate with"
19.5.1	Delete "Hookblock"
19.5.1.2	Delete "Working Platform"
19.5.1.3	Delete "Clamshell"
19.5.2	Delete "Install and Remove Cables"
19.5.3	Delete "Change Attachments"
20.1.3	Change "Fiber Rope" to "Nylon Strings"
20.1.4	Delete "Nylon Strrings"
20.2.3	Change "Fiber Rope" to "Nylon Strings"
20.3	Change "Rig Cable Operated Power Control Units" to "Move and Place Equipment using:"
20.3.1	Change "Front" to "Skids"
20.3.2	Change "Rear" to "Rollers"
20.3.3	Add "Hydraulic/Screw/Ratchet Jacks; B 5-level
20.3.4	Add "Deadman Devices; B 5-level
20.4	Add "Fabricate Wire Rope Slings"; b 5-level

20.4.1	Delete "Skids"
20.4.2	Delete "Rollers"
20.4.3	Delete "Blocks and Tackles"
20.4.4	Delete "Jacks"
20.4.5	Delete "Cribbing"
20.4.6	Delete "Deadman Devices"
20.5	Delete "Perform Inspections"
20.6	Delete "Perform Maintenance Procedures"
21.1.2	Add "Perform Operator Maintenance"
21.1.2.1	Delete "Load Materials"
21.1.2.1.1	Delete " With Front Bucket"
21.1.2.1.2	Delete "With Backhoe Bucket"
21.1.2.2	Delete "Excavate"
21.1.2.3	Delete "Backfill"
21.1.3	Add "Perform Backhoe Operations such as:"
21.1.3.1	Add "Excavate with front bucket" /2b, 2b 3-level; b 5-level
21.1.3.2	Add "Excavate with rear bucket" */2b, 2b 3-level, 5-level
21.1.3.2	Add "Load with front bucket" /2b, 2b 3-level, b 5-level
21.1.3.3	Add "Load with rear bucket" */2b, 2b 3-level, b 5-level
21.1.3.4	Add "Backfill with front bucket" /2b, 2b 3-level, b 5-level
21.1.3.5	Add "Backfill with rear bucket" /2b, 2b 3-level, b 5-level
21.2.3	Change "Operate Hydraulic Excavator using:" to "Perform Excavator operations such as:"
21.2.3.1	Change to "Excavate with Bucket" /2b, 2b 3-level, B 5-level
21.2.3.2	Change to "Load with Bucket" /2b, 2b 3-level, B 5-level

21.2.3.3	Change to "Backfill with Bucket/Dozer Blade /2b, 2b 3-level, B 5-level
21.2.3.4	Add "Compact Material" /2b, 2b 3-level, B 5-level
21.2.3.5	Add "Break Materials with Impact" /2b, 2b 3-level, B 5-level
21.2.3.6	Add "Lift/Position Loads" /2b, 2b 3-level, B 5-level
21.2.4	Change "Perform Operator Maintenance" to "Change Excavator Attachments such as:"
21.2.4.1	Add "Bucket" /2b, 2b 3-level, B 5-level
21.2.4.2	Add "Impactor" /2b, 2b 3-level, B 5-level
21.2.4.3	Add "Compactor /2b, 2b 3-level B 5-level
21.3.3	Add "Perform Operations such as:"
21.3.3.1	Add "Treching" /2b, 2b 3-level, B 5-level
21.3.3.2	Add "Backfilling" /2b, 2b 3-level, B 5-level
21.4	Add "Shoring Applications" /A. A 3-level B 5-level
22.1.2	Change "Operate" to "Perform Operation Maintenance" /b, b 3-level, B 5-level
22.1.2.3	Change "Perform Maintenance Operation" to "Operate"
22.4.1	Add "Perform Operational Checks"
22.4.2	Add "Operate"
22.6.1	Change "Mechanical" to "Mechanical Equipment"
23.1	Change "General Pavement Functions" to "Construct Pavement Surfaces"
23.1.1	Change "Layout Area" */, 2b 3-level, B 5-level to
23.1.2	"Interpret Construction Drawings" /A, A 3-level, B 5-level
23.1.2.1	Delete "Hand Tools"
23.1.2.2	Delete "Construction Equipment"
23.1.3	Change "Clear Area Using" to "Layout Area Using"
23.1.2.1	Change "Hand Tools" to "Levels"
23.1.2.1.1	Add "Line Levels" */2b, 2b 3-level, B 5-level
23.1.2.1.2	Add " Laser Level" /A, A 3-level, B 5-level

23.1.2.1.3	Add "Carpenter Hand Level" /2b, 2b 3-level, B 5-level
23.1.2.1.4	Add "Engineer Level" ?2b, 2b 3-level, B 5-level
23.1.2.2	Change "Construction Equipment" to "Prepare Area as Indicated b Construction Stakes"
23.1.3	Change "Excavate Area Using" to "Prepare Area as Indicated by Construction Stakes" **/2b, 2b 3-level, B 5-level
23.1.3.1	Change "Hand Tools" to "Fill" /2b, 2b 3-level, B 5-Level
23.1.3.2	Change "Construction Equipment" to "Asphalt" /2b, 2b 3-level, B 5-level
23.1.3.3	Add "Concrete" /2b, 2b 3-level, B 5-level
23.1.3.4	Add "Base Course" /2b, 2b 3-level, B 5-level
23.1.4	Change "Prepare Subgrade" to "Clear the area" /2b, 2b 3-level, B 5-level
23.1.4.1	Delete "Stabilize"
23.1.4.2	Delete "Compact"
23.1.5	Change "Prepare Base Course" to "Prepare Subgrade"
23.1.5.1	Change "Place" to "Stabilize using"
23.1.5.1	Add "Mechanical means" **/2b, 2b 3-level, B 5-level
23.1.6	Change "Compute Materials Required" to "Prepare Bare Course"
23.1.6.1	Add "Place Materials" */2b, 2b 3-level, B 5-level
23.1.6.2	Add "Compact Materials" */2b, 2b 3-levels, B 5-level
23.1.7	Change "Identify Pavement Defects" to ""Install Moisture Barriers" A, A 3-level, B 5-level
23.1.8	Delete "Material Reclamation"
23.1.9	Delete "Pavement Maintenance Plan"
23.2.1	Change "Concrete Material" to "Construct Concrete Slab"
23.2.1.1	Add "Install Forms"
23.2.1.1.1	Add "Wood" */2b, 2b 3-level, B 5-level

23.2.1.1.2	Add "Metal" */2b, 2b 3-level, B 5-level
23.2.1.2	Add "Install Reinforcing Materials"
23.2.1.3	Add "Wire Mesh" */2b, 2b 3-level, B 5-level
23.2.1.2.2	Add "Rebar" /2b, 2b 3-level, B 5-level
23.2.1.3	Add "Install load transfer devices"
23.2.1.3.1	Add "Keyways" /A, A 3-level, B 5-level
23.2.1.3.2	Add "Dowels" /A, A 3-level, B 5-levels
23.1.4	Add "Perform Slump Test" /2b, 2b 3-level, B 5-Level
23.1.4.1	Add "Prepare Cylinders for testing" /A, A 3-level, A 5-level
23.2.1.5	Add "Place Concrete" */2b, 2b 3-level, B 5-level
23.2.1.6	Add "Fabricate Joints" */2b, 2b 3-level, B 5-level
23.2.1.7	Add "Finish Concrete"
23.2.1.7.1	Add "Smooth" /2b, 2b 3-level, B 5-level
23.2.1.7.2	Add "Non-skid" */2b, 2b 3-level, B 5-level
23.2.1.8	Add "Cure Concrete" */2b, 2b 3-level, B 5-level
23.2.1.9	Add "Remove Forms" */2b, 2b 3-level, B 5-level
23.2.1.10	Add "Landscape Site" /A, A 3-level, B 5-level
23.2.2	Delete "Construct Rigid Pavement"
23.2.2.1	Delete "Install Forms"
23.2.2.2	Delete "Install Reinforcing Materials"
23.2.2.3	Delete "Perform Slump Test"
23.2.2.4	Delete "Prepare Cylinder for Testing"
23.2.2.5	Delete "Place"
23.2.2.6	Delete "Finish"
23.2.2.7	Delete "Cure"
23.2.2.8	Delete "Fabricate Joints"
23.2.2.9	Delete "Remove Forms"

23.2.3	Delete "Repair Defective Pavement" TR: AFRs 85-8, 93-5, AFM 88-6
23.2.3.1	Delete "Repair Defective Pavement"
23.2.3.2	Delete "Clean Concrete using:"
23.2.3.2.1	Delete "Sand Blaster"
23.2.3.2.2	Delete "High Pressure Air"
23.2.3.2.3	Delete "High Pressure Water"
23.2.3.3	Delete "Mix/Place and Repair Patches Using:"
23.2.3.3.4	Delete "Remove Joint Sealing Material"
23.2.3.4	Delete "Seal Joints and Cracks" TR: AFR 85-8, 93-6, 88-6 (Chap 7)
23.3.1	Change "Bituminous Materials" to "Perform Full Depth Pavement Repair"
23.3.1.1	Change "Types" to "Cut Pavement using Concrete saw" */2b, 2b 3-level, B 5-level
23.3.1.2	Change "Uses" to "Break Pavement using Air Compressor with Jack Hammer", */2b, 2b 3-level, B 5-level
23.3.1.3	Change "Apply Bituminous Material" to "Remove Pavement" /2b, 2b 3-level, B 5-level
23.3.1.4	Change "Environmental Concerns" to "Prepare the area"
23.3.1.4.1	Add "Remove/Replace Bare Base Course" /2b, 2b 3-level, B 5-level
23.3.1.4.2	Add "Remove/Replace Subgrade" /2b, 2b 3-level, B 5-level
23.3.1.5	Add "Reinstall Load Transfer Devices" /A, A 3-level, A 5-level
23.1.3.6	Add "Install Reinforcement Material" /2b, 2b 3-level, B 5-level
23.1.3.7	Add "Replace Concrete"
23.1.3.7.1	Add "Mix Concrete using Portable Concrete Mixer" /2b, 2b 3-level, B 5-level
23.1.3.8	Add "Finish Concrete" /2b, 2b 3-level, B 5-level

23.3.1.9	Add "Cure Concrete" /2b, 2b 3-level, B 5-level
23.3.2	Change "Construct Flexible Pavement" to "Perform Depth Repair" TR: AFJMAN 32-1040
23.3.2.1	Delete "Place"
23.3.2.2	Delete "Compact"
23.3.3	Delete "Repair Defective Pavement"
23.3.3.1	Delete "Remove"
23.3.3.2	Delete "Replace"
23.4	Add "Repair Defective Sealing Material" TR: AFJMAN 32-1040
23.4.1	Add "Prepare Joints for Resealing"
23.4.1.1	Add "Remove Existing Sealant using:"
23.4.1.1.1	Add "Vertical Router" /2b, 2b 3-level, B 5-level
23.4.1.1.2	Add "Joint Plow" /A, A 3-level, B 5-level
23.4.1.1.3	Add "Saw or Reface the Joint using Concrete Saw" /2b, 2b 3-level, B 5-level
23.4.2	Add "Prepare Cracks for Resealing"
23.4.2.1	Add "Remove Existing Sealant using:"
23.4.2.1.1	Add "Vertical Router" /b, b 3-level, B 5-level
23.4.2.1.2	Add "Crack Saw" /b, b 3-level, B 5-level
23.4.3	Add "Clean Joints/Cracks with:"
23.4.3.1	Add "Water blaster" /b, b 3-level, B 5-level
23.4.3.2	Add "High Pressure Air" /2b, 2b 3-level, B 5-level
23.4.4	Add "Install backer materials" /b, b 3-level, B 5-Level
23.4.5	Add "Reseal joints/cracks using:"
23.4.5.1	Add "Cold-applied sealants" 1/b, 1b 3-level, B 5-level
23.4.5.2	Add "Hot-applied sealants " /b, b 3-level, B 5-level
23.5	Add "Flexible Pavements" TR: AFJMAN 32-1040
23.5.1	Add "Construct with Bituminous Materials"

23.5.1.1	Add "Types" /A, A 3-level, B 5-level
23.5.1.2.	Add "Uses" /A, A 3-level, B 5-level
23.5.1.3	Add "Environment Concerns" /A, A 3-level, B 5-Level
23.5.1.2	Add "Apply Prime Coat" **/1b, 1b 3-level, B 5-level
23.5.2.1	Add "Determine Asphalt Temperatures" /A, a 3-level, B 5-level
23.5.3	Add "Place Asphalt" **/2b, 2b 3-level, B 5-level
23.5.4	Add "Asphalt Concrete Lifts"
23.5.4.1	Add "Binder Course" /A, A 3-level, B 5-level
23.5.4.2	Add "Wear Course" /A, A 3-level, B 5-level
23.5.5	Add "Compact Asphalt" **/2b, 2b 3-level, B 5-Level
23.5.6	Add "Repair Defective Pavement"
23.5.6.1	Add "Identify the Area" /2b, 2b 3-level, B 5-level
23.5.6.2	Add "Cut Area Using K-Saw" /2b, 2b 3-level, B 5- 1 level
23.5.6.3	Add "Remove Pavement" /2b, 2b 3-level, B 5-level
23.5.6.4	Add "Prepare Base" /2b, 2b 3-level, B 5-level
23.5.6.5	Add "Prepare Subgrade" /2b, 2b 3-level, B 5-level
23.5.6.6	Add "Apply Tack Coat" **/1b, 1b 3-level, B 5-level
23.5.6.7	Add "Place Asphalt" /2b, 2b 3-level, B 5-level
23.5.6.8	Add "Compact Asphalt" /2b, 2b 3-level, B 5-level
23.5.7	Add "Perform Partial Depth Repair" TR: AFJMAN 32-1040
23.6	Add "Repair Cracks in Flexible Pavements" TR: AFJMAN 32-1040
23.6.1	Add "Prepare Cracks using:"
23.6.1.1	Add "Vertical Router" /A, A 3-level, B 5-level
23.6.1.2	Add "Impact Router" /A, a 3-level, B 5-level
23.6.1.3	Add "Crack Saw" /A, A 3-level, B 5-level

23.6.1.4	Add "Mechanical Wire Wheel" /A, A 3-level, B 5-level
23.6.2	Add "Clean Area Using High Pressure Air" /A, A 3-level, B 5-level
23.6.3	Add "Seal Cracks using:"
23.6.3.1	Add "Hot Applied Sealant, /A, A 3-level, B 5-level
23.6.3.2	Add "Cold Applied Sealant", /A, A 3-level, B 5-Level
23.6.3.3	Add: "Surface Treatments"
23.6.3.3.1	Add "Fog Seal" /1b, 1b 3-level, B 5-level
23.6.3.3.2	Add "Slurry Seal" /1b, 1b 3-level, B 5-level
23.6.3.3.3	Add "Chip Seal" /A, A 3-level, B 5-level
27.	Add "General Contingency Responsibilities"
27.1	Add "Prime BEEF (PB) Orientation"
27.1.1	Add "The Prime BEEF (PB) Program" /A, A 3-level
27.1.2	Add "Civil Engineer Doctrine" /A, A 3-level
27.1.3	Add "Uniform Code of Military Justice (UCMJ)"
27.1.4	Add "The Law of Armed Conflict"
27.1.5	Add "The Prime Beef equipment requirements"
27.1.5.1	Add "Consolidated tool kits" /A, A 3-level
27.1.5.2	Add "Mobility Bags" /A, A 3-level
27.1.5.3	Add "weapons" /A, A 3-level
27.1.5.4	Add "Team Kits" /A, A 3-level
27.1.5.5	Add "Body Armor" /A, A 3-level
27.1.5.6	Add "Tactical communication system" /A, A 3-level
27.1.6	Add "Individual responsibilities" /A, A 3-level
27.2	Add "Field Sanitation & Hygiene Measures"
27.2.1	Add "Personal hygiene measures", /A, A 3-level
27.2.2	Add "Disease and pestilence countermeasures" /A, A 3-level

27.2.2	Add "Military field sanitation", /A, A 3-level
27.3	Add "Self protection from extreme weather"
27.3.1	Add "Desert survival techniques"
27.3.1.1	Add "Acclimatization" /A, A 3-level
27.3.1.2	Add "Sun protection" /A, A 3-level
27.3.1.3	Add "Heat exertion"
27.3.1.4	Add "Dehydration"
27.3.1.5	Add "Heat Stroke"
27.3.2	Add "Cold weather survival methods"
27.3.2.1	Add "Wearing of clothing" /AA, A 3-level

DEPARTMENT OF THE AIR FORCE
782d Training Group (AETC)
(PDS Code I6U)
Sheppard Air Force Base, Texas 76311-2245
June 2000

DRAFT CTS J6ANU3E271 000

PAVEMENTS MAINTENANCE, INSPECTION, AND REPAIR

1. Implementation of training in support of this CTS is with the class beginning 020603 and graduating 020607.
2. Purpose. This course training standard as prescribed in AETCI 36-2203:
 - a. Establishes the training requirements using tasks, knowledge, and proficiency levels of training for course J6ANU3E271 000, Pavements Maintenance, Inspection, and Repair Course.
 - b. Provides the basis for the development of more detailed training materials, training objectives, and training evaluation documents for the course.
3. Course Description. The qualification course provides knowledge required for the J4AZP3E271 001, Pavements Maintenance, Inspection, and Repair Course. The scope of training includes soil fundamentals, rigid and flexible pavement maintenance and repair, pavement inspection, and health hazards/concerns. Trainees must possess AFSC 3E251/71 or the civilian equivalent.
4. Training Requirements. Attachment 1 contains the qualitative requirements referenced in paragraph 2.
Trainees must complete this course prior to attending the J4AZP3E271-001 course.
5. Recommendations. Comments and recommendations are invited concerning quality of AETC training. Reference this CTS and address correspondence regarding changes to the 782 TRG/TTS, 620 9th Avenue, Suite 3, Sheppard AFB, TX 76311-2368. A customer service information line has been installed for the supervisors' convenience to identify graduates who may have received over or under training on task/knowledge items listed in this training standard. For a quick response, call our customer information line, DSN 736-2574, any time day or night.

JEFFREY A. KWALLEK, Colonel, USAF
Commander

1 Atch
Qualitative Requirements

Supersedes: N/A

Prepared by: 366 TRS/TRRT

Approved by and Date: 366TRS/CC, 21 June 2000

DISTRIBUTION: X: HQ ACC/DPPTC-1; HQ ANG/MPTMO-1; HQ AFMC/DPE-1; HQ AFSPC/DPAE-1; HQ AFSOC/DPPT-1; HQ AMC/DPPET-1; HQ PACAF-1; HQ USAFOMS-OMY-1; HQ USAFA/DP-1; HQ USAFE/DPATTJ-1; HQ AETC/DPSE-1; HQ AFRC/DPTS-1; HQ AFCESA/CEOT-1; 82 TRSS/TTR-1; 782 TRG/TTS-1; 366 TRS/DET7-5

QUALITATIVE REQUIREMENTS

PROFICIENCY CODE KEY		
	Scale Value	Definition: The individual
Task Performance Levels	1	Can do simple parts of the task. Needs to be told or shown how to do most of the task. (Extremely limited)
	2	Can do most parts of the task. Needs only help on hardest parts. (PARTIALLY PROFICIENT)
	3	Can do all parts of the task. Needs only a spot check of completed work. (COMPETENT)
	4	Can do the complete task quickly and accurately. Can tell or show others how to do the task. (HIGHLY PROFICIENT)
Task Knowledge Levels *	a	Can name parts, tools, and simple facts about the task. (NOMENCLATURE)
	b	Can determine step by step procedures for doing the task. (PROCEDURES)
	c	Can identify why and when the task must be done and why each step is needed. (OPERATING PRINCIPLES)
	d	Can predict, isolate, and resolve problems about the task. (COMPLETE THEORY)
Subject Knowledge Levels **	A	Can identify basic facts and terms about the subject. (FACTS)
	B	Can identify relationship of basic facts and state general principles about the subject. (PRINCIPLES)
	C	Can analyze facts and principles and draw conclusions about the subject. (ANALYSIS)
	D	Can evaluate conditions and make proper decisions about the subject. (EVALUATION)

EXPLANATIONS

* A task knowledge scale value may be used alone or with a task performance scale to define a level of knowledge for a specific task.
(Example: "b" and "1b")

** A subject knowledge scale value is used alone to define a level of knowledge for a subject not directly related to any specific task,
or for a subject common to several tasks.

- This mark is used instead of a scale value to show that no proficiency training is required in the course.

X This mark is used alone in course columns to show that training is required but not given due to limitations in resources.

QUALITATIVE REQUIREMENTS

Tasks, Knowledge, and Proficiency Level

1. SOIL FUNDAMENTALS: Compute quantities of base course required

- a. Classify soil type and construction properties using field identification tests
c
- b. Determine soil stabilization techniques
C
- c. Describe base course requirements
C
- d. Determine quantities of base course required
C

2. RIGID PAVEMENT MAINTENANCE AND REPAIR

- a. Classify types of concrete materials
C
- b. Determine standard concrete mix procedures
C
- c. Calculate amount of concrete required
C
- d. Explain rigid pavement repairs
c
 - (1). Full-depth
 - (2). Partial-depth
- e. Determine defective sealant repair procedures
c

3. FLEXIBLE PAVEMENT MAINTENANCE AND REPAIR

- a. Classify types of bituminous pavement material
C
- b. Calculate quantities of materials for flexible pavements
C
- c. Explain defective flexible pavement repair procedures
c
 - (1) Full-Depth
 - (2) Partial-Depth
 - (3) Skin Patch Repair
 - (4) Chip seal

- d. Determine materials and procedures required for flexible pavement crack sealant
c
replacement

4. PAVEMENT INSPECTION

- a. Determine pavement condition index survey fundamentals
C
- b. Conduct a rigid pavement inspection
c
 - (1) Identify types of rigid pavement defects
 - (2) Identify causes of rigid pavement defects
- c. Conduct a flexible pavement inspection
c
 - (1) Identify types of flexible pavement defects
 - (2) Identify causes of flexible pavement defects

5. HEALTH HAZARDS/CONCERNS

- a. Determine health hazards and personnel protective equipment requirements
C
- b. Determine environmental impact of pavement materials
C
- c. Determine disposal procedures for hazardous pavements materials waste
C
- d. Explain problems associated with paving in confined spaces
C

SUMMARY OF CHANGES

This prerequisite qualification course resulted from the 1999 Civil Engineer Education and Training Review Committee and Utilization and Training Workshop initiative to return hands on performance objectives to the J4AZP3E271 001, Pavement Maintenance Inspection Repair Mobile Technical Training (MTT) course. Trainees must complete this qualification course prior to enrolling in the J4AZP3E271 001 MTT course.

DEPARTMENT OF THE AIR FORCE
J4AZP3E271 001
782d Training Group (AETC)
(PDS Code FRI)
Sheppard Air Force Base, Texas 76311-2245
June 2000

DRAFT CTS

PAVEMENTS MAINTENANCE, INSPECTION, AND REPAIR

1. Implementation of training in support of this CTS is with the class beginning 001113 and graduating 001117.
2. Purpose. This course training standard as prescribed in AETCI 36-2203:
 - a. Establishes the training requirements using tasks, knowledge, and proficiency levels of training for course J4AZP3E271-001, Pavements Maintenance, Inspection, and Repair Course.
 - B. Provides the basis for the development of more detailed training materials, training objectives, and training evaluation documents for the course.
3. Course Description. The course provides hands on performance in the skills needed to perform pavements maintenance, inspection, and repair duties. The scope of training includes soil fundamentals, rigid and flexible pavement maintenance and repair, pavement inspection and health hazards/concerns. Trainees must possess AFSC 3E251/71 or the civilian equivalents.
4. Training Requirements. Attachment 1 contains the qualitative requirements referenced in paragraph 2. Trainees must complete prerequisite course J6ANU3E271 000 prior to attending this course.
5. Recommendations. Comments and recommendations are invited concerning quality of AETC training. Reference this CTS and address correspondence regarding changes to the 782 TRG/TTS, 620 9th Avenue, Suite 3, Sheppard AFB, TX 76311-2368. A customer service information line has been installed for the supervisors' convenience to identify graduates who may have received over or under training on task/knowledge items listed in this training standard. For a quick response to problems, call our customer information line, DSN 736-2574, any time day or night.

JEFFREY A. KWALLEK, Colonel, USAF
Commander

1 Atch
Qualitative Requirements

Supersedes CTS J4AZP3E271 000, August 1997
Prepared by: 366 TRS/TRRT
Approved by and Date: 366TRS/CC, 21 June 2000

DISTRIBUTION: X: HQ ACC/DPPTC-1; HQ ANG/MPTMO-1; HQ AFMC/DPE-1; HQ AFSPC/DPAE-1;
HQ AFSOC/DPPT-1; HQ AMC/DPPET-1; HQ PACAF-1; HQ USAFOMS-OMY-1; HQ USAFA/DP-1;
HQ USAFE/DPATTJ-1; HQ AETC/DPSE-1; HQ AFRC/DPTS-1; HQ AFCESA/CEOT-1; 82
TRSS/TTR-1; 782 TRG/TTS-1; 366 TRS/DET7-5

QUALITATIVE REQUIREMENTS

PROFICIENCY CODE KEY		
	Scale Value	Definition: The individual
Task Performance Levels	1	Can do simple parts of the task. Needs to be told or shown how to do most of the task. (Extremely limited)
	2	Can do most parts of the task. Needs only help on hardest parts. (PARTIALLY PROFICIENT)
	3	Can do all parts of the task. Needs only a spot check of completed work. (COMPETENT)
	4	Can do the complete task quickly and accurately. Can tell or show others how to do the task. (HIGHLY PROFICIENT)
Task Knowledge Levels *	a	Can name parts, tools, and simple facts about the task. (NOMENCLATURE)
	b	Can determine step by step procedures for doing the task. (PROCEDURES)
	c	Can identify why and when the task must be done and why each step is needed. (OPERATING PRINCIPLES)
	d	Can predict, isolate, and resolve problems about the task. (COMPLETE THEORY)
Subject Knowledge Levels **	A	Can identify basic facts and terms about the subject. (FACTS)
	B	Can identify relationship of basic facts and state general principles about the subject. (PRINCIPLES)
	C	Can analyze facts and principles and draw conclusions about the subject. (ANALYSIS)
	D	Can evaluate conditions and make proper decisions about the subject. (EVALUATION)

EXPLANATIONS

* A task knowledge scale value may be used alone or with a task performance scale to define a level of knowledge for a specific task. (Example: "b" and "1b")

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QUALITATIVE REQUIREMENTS

Tasks, Knowledge, and Proficiency Level

2. SOIL FUNDAMENTALS: Compute quantities of base course required - Classify Soil types and construction properties using field identification tests
3c
3. RIGID PAVEMENT MAINTENANCE AND REPAIR
 - a. Perform rigid pavement repairs
3c
 - (1) Full-depth
 - (2) Partial-depth
 - b. Replace defective sealant
3c
4. FLEXIBLE PAVEMENT MAINTENANCE AND REPAIR
 - a. Repair defective flexible pavement
3c
 - (1) Full-Depth
 - (2) Partial-Depth
 - (3) Skin Patch Repair
 - (4) Chip seal
 - b. Seal cracks in flexible pavement - Apply fuel resistant surface treatment to aircraft parking area
3c
5. PAVEMENT INSPECTION
 - a. Conduct a rigid pavement inspection - Identify types of rigid pavement defects
3c
 - b. Conduct a flexible pavement inspection - Identify flexible pavement defects
3c

SUMMARY OF CHANGES

This revision resulted from the 1999 Civil Engineer Education and Training Review Committee and Utilization and Training Workshop initiative to incorporate performance tasks into this course. The revision removes knowledge objectives from this course and places them in the J6ANU3E271 000 course. Trainees must complete the J6ANU3E271 000 prerequisite qualification course prior to attending this course.

ACTION ITEMS

ITEM	OPR/OCR	ECD	COMP DATE
1. Submit AFMAN 36-2108 changes to AFPC/DPPAC STATUS: Closed	OPR: HQ AFCESA/CEOT SMSgt Skinner	April 01	Sep 00
2. Make necessary changes to CFETP as specified by workshop members STATUS: Closed	OPR: 366 th TRS/TRR Mr. Jim Phillips OCR: HQ AFCESA/CEOT SMSgt Skinner	Aug 00	Aug 00
3. Investigate and make changes to the 3E2X1 STS STATUS: Closed	OPR: 366 TRS, Mr Jim Phillips OCR: Det-7 FLW Mo. TSgt Gregg Stout	Aug 00	Aug 00
4. Investigate the concept of pavements planning STATUS: Open	OPR: MSgt Patrick Daize	Aug 00	
5. Submit recommendation to create a CCAF accredited AF unique course STATUS: Open	OPR: 366 th TRS/TRR Mr. Jim Phillips OCR: TSgt James Dinsmoore	Aug 00	
6. Submit all changes to AFCAT 36-2223 to AFPC/DPPAT STATUS: Open	OPR: 366 th TRS/TRR Mr. Jim Phillips	Oct 00	
7. Finalize new CFETP & submit to AFPC/DPPAT STATUS: Open	OPR: 366 th TRS/TRR Mr. Jim Phillips OCR: HQ AFCESA/CEOT SMSgt Skinner	Nov 00	
8. Complete apprentice course development/implement first class STATUS: Open	OPR: 366 th TRS/TRR Mr. Jim Phillips	Aug 01	
9. Complete CDC development for AFIADL review. Delivery to field. STATUS: Open	OPR: 366 th TRS/TRR Mr. Jim Phillips	May 01 To AFIADL Sep 01	
10. Make all changes to supplemental courses and changes to the ETCA STATUS: Closed	OPR: 366 th TRS/TRR Mr. Jim Phillips	May 00	May 00
11. Review all 3E2 AFQTP's and modify to match new core task STATUS: Closed	OPR: HQ AFCESA/CEOT SMSgt Skinner	Aug 00	Aug 00

MAY 00 3E2X1 U&TW RESULTS

(Pavements & Construction Equipment Operator)

Pre-May 00 U&TW

Post-May 00 U&TW

Core tasks

5-level tasks	82	37
Certified at school	0	0

7-level tasks	23	24
Certified at school	0	0

<u>Total core tasks</u>	105	61
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*Diamond Tasks	0	0
Certified at school	0*	0**

Total core tasks requiring certification at duty location	105	61
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OVERALL RESULTS: Prior to the May 00 U&TW, 105 core tasks required certification at the duty location. After the 00 U&TW, 61 core tasks require certification at the duty location. The overall training load has been reduced by 44 core tasks.